

Sei Manual

Radio

FM-AM 5-BAND PORTABLE RADIO
WITH CASSETTE TAPE RECORDER

RF-5410DLBS



■ SPECIFICATIONS

Frequency Range:	FM 87.5~108 MHz LW 145~285 kHz (2060~1060m) MW 520~1610 kHz (577~186 m) SW ₁ 1.6~4.5 MHz (187~66.7 m) SW ₂ 5.9~18 MHz (50.8~16.7 m)	Power Consumption: Speaker: 15W (AC Only) Woofer 6 cm (6½") PM Dynamic Speaker Tweeter 3 cm (1¼") PM dynamic Speaker
Intermediate Frequency:	FM 10.7 MHz	Dimensions: 406(Wide) x 241(High) x 105(Deep)mm (16" x 9½" x 4½")
Sensitivity:	AM (LW, MW & SW) 455 kHz FM 2 μ V for 30 dB Quieting LW 100 μ V/m for 50 mW Output MW 30 μ V/m for 50 mW Output SW ₁ 20 μ V/m for 50 mW Output SW ₂ 5 μ V for 50 mW Output	Weight: 4.3 kg. (9 lb. 8 oz.) without batteries
Power Output:	5W (MPO) AC operation 7W (DC 80% MOD. CPO Max.)	Speaker 8 Ω Earphone Jack 8 Ω DIN Jack
Power Source:	AC 115/200/220/240V 50-60 Hz or 12V (Eight "D" Size Flashlight Batteries) (National UM-1 or equivalent)	Aux 2.2M Ω Rec Out 80k Ω Microphone Jack 4.7k Ω

Specifications are subject to change without notice for further improvement.

 **National Panasonic**

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan

■ TO REMOVE CHASSIS (RF Circuit)

1. Remove the ten (10) screws for the cabinet back cover (nos. 1~10), as shown in fig. 1.
2. Remove the battery cover.
3. Remove the cabinet back cover.
4. Pull out the two (2) lead sockets from chassis.
5. Pull out the two (2) lead sockets from cabinet back cover.
6. Remove the three (3) knobs for the tuning, band and fine tuning.
7. Remove the five (5) red screws for the chassis (nos. 1, 2, 6, 7 & 8), as shown in fig. 2.
8. Remove the chassis.
9. To remove chassis completely, pull out sockets from chassis (AF circuit), Speaker and PC board (For volume Control).
10. Unsolder lead wires to chassis (AF Circuit) and speaker from chassis (RF circuit).
11. To reassemble, reverse the above procedure.

■ TO REMOVE PC BOARD (RF Circuit)

1. Remove the chassis from cabinet. (Refer to chassis removal instruction.)
2. Remove the seven (7) screws for the PC board, (nos. 1~7), as shown in fig. 4.
3. Remove the PC board from chassis.
4. To reassemble, reverse the above procedure and note the following.
 1. Turn tuning shaft fully counter-clockwise.
 2. Turn tuning capacitor shaft fully counter-clockwise.

■ TO REMOVE CHASSIS (AF Circuit)

1. Remove the cabinet back cover. (Refer to chassis (RF circuit) removal instruction.)
2. Remove the two (2) knobs for the rec level and mic mixing.
3. Remove the five (5) red screws for the chassis (nos. 3, 4, 5, 9 & 10), as shown in fig. 2.
4. Push the eject button.
5. Pull out the five (5) lead sockets from chassis.
6. Pull out the two (2) lead sockets from speaker terminal.
7. To remove chassis completely, unsolder lead wires to microphone and cabinet from chassis, as shown in fig. 5.
8. To reassemble, reverse the above procedure and note the following.
 1. Set memory system switch to "OFF" position.

■ TO REMOVE TAPE DECK

1. Remove the chassis. (Refer to chassis (AF circuit) removal instruction.)
2. Remove the seven (7) screws for the OSC switch and PC board (AF circuit) (nos. 1~7), as shown in fig. 3.
3. Remove the PC board.
4. Remove REC and TAPE switches.
5. To remove tape deck completely, unsolder lead wires, as shown in fig. 5.
6. To reassemble, reverse the above procedure.

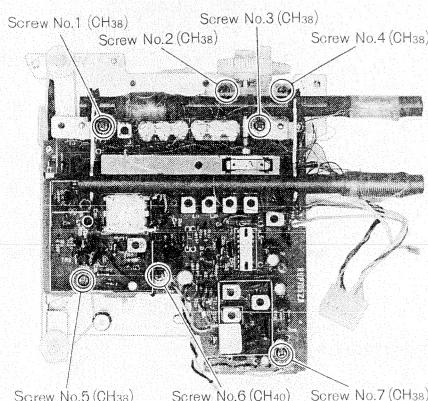


Fig. 4

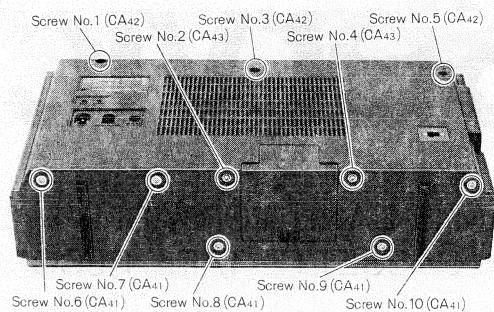


Fig. 1

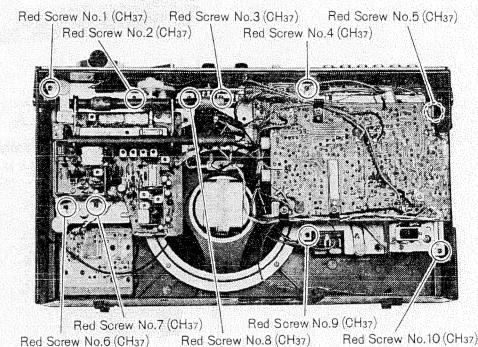


Fig. 2

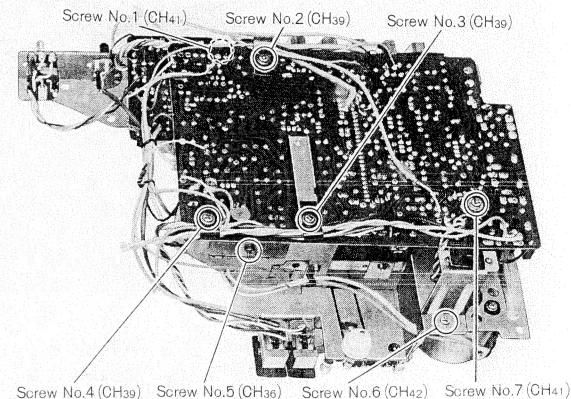


Fig. 3

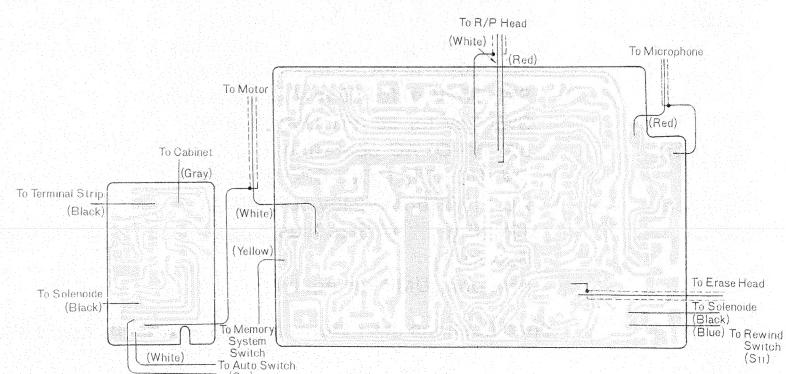


Fig. 5

DIAL CORD INSTALLATION GUIDE

1. Remove PC board (RF circuit) from chassis. (Refer to PC board removal instruction.)
2. Loosen the dial drum screw, as shown in fig. 7.
3. Set each dial drum at the position, as shown in fig. 7.
4. Dial cord length is 47 $\frac{1}{4}$ " (120 cm).
5. Arrows (1~13) indicate correct order and direction of dial cord installation, as shown in fig. 7.
6. Cement dial cord ends.
7. Mount the PC board (RF circuit) to chassis. (Refer to PC board removal instruction.)
8. Turn tuning shaft fully counter-clockwise.
9. Align the start point of the dial scale with the pointer of transparent cover, as shown in fig. 6.
10. Tighten the screw of dial drum, as shown in fig. 7.

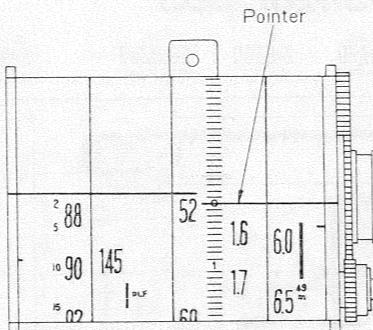


Fig. 6

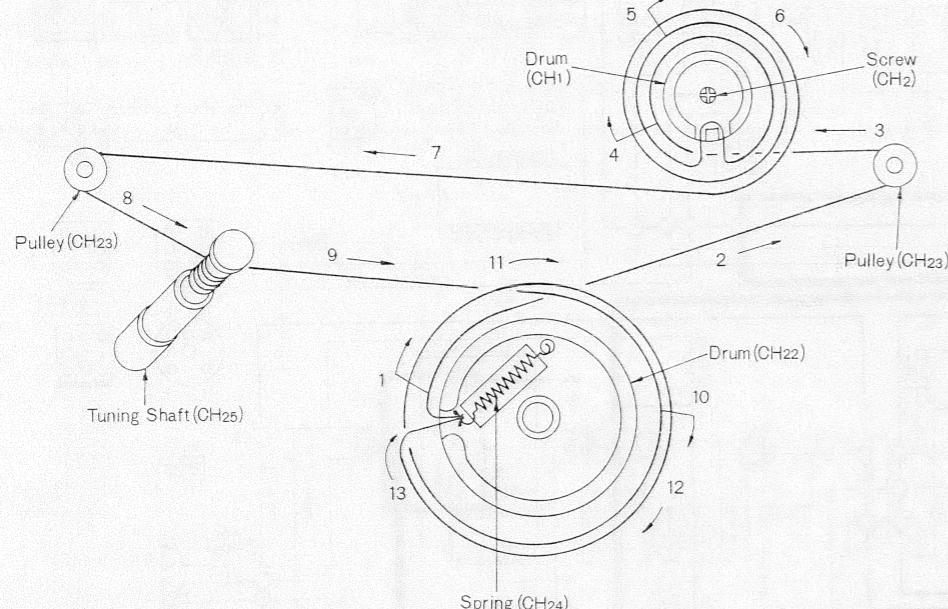


Fig. 7

TUNE/LEVEL/BATT METER ADJUSTMENT

1. RADIO RECEIVER SETTING
 - Set band selector to MW.
 - Set volume control to minimum.
 - Set power source voltage to 12 volts DC.

2. REMARKS

- Adjust R₃₂ so that the pointer of level meter stays as shown in fig. 8.

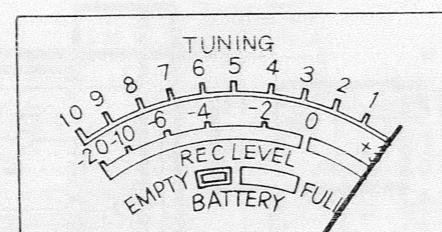


Fig. 8

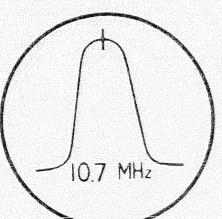


Fig. 9

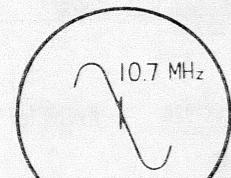


Fig. 10

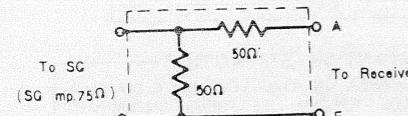


Fig. 11 FM Dummy Antenna

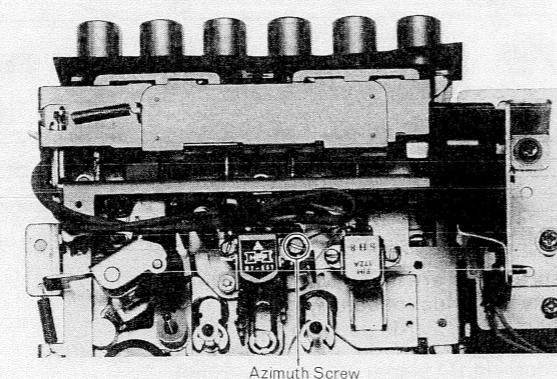


Fig. 12

ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes:

1. Set volume control to MAX or MIN (Tape).
2. Set bass and treble control to MAX.
3. Set band selector switch to LW, MW, SW₁, SW₂ or FM.
4. Set aux-radio-tape selector to RADIO or TAPE (Step 15~17).
5. Set power source voltage to 12 volts DC.
6. Set tape selector to record or play (Step 15~17).
7. Tape switch CrO₂ or normal (Step 17).
8. Set OSC switch to 1.
9. Output of signal generator should be no higher than necessary to obtain an output reading.
10. When aligning, remove telescopic antenna socket.

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
CONNECTIONS	FREQUENCY				

LW ALIGNMENT

(1)	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400 Hz.	Point of non-interference. (on/about 600 kHz).	Output meter across voice coil.	T ₂ (1st IFT) T ₃ (2nd IFT)	Adjust for maximum output.
(2)	"	145 kHz [Fig. 13]	"	"	L ₈ (OSC Coil) (*1)L ₁₋₁ (ANT Coil)	Adjust for maximum output. Adjust L ₁₋₁ by moving coil bobbin along ferrite core.
(3)	"	285 kHz [Fig. 14]	"	"	C ₃₅ (OSC Trimmer) C ₅ ANT Trimmer	Adjust for maximum output. Repeat steps (2) and (3).

MW ALIGNMENT

(4)	"	550 kHz [Fig. 15]	"	L ₉ (OSC Coil) (*1)L ₁₋₂ (ANT Coil)	Adjust for maximum output. Adjust L ₁₋₂ by moving coil bobbin along ferrite core.
(5)	"	1500 kHz [Fig. 16]	"	C ₃₈ (OSC Trimmer) C ₇ (ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).

(*1) Cement antenna bobbin with wax after completing alignment.

SW1 ALIGNMENT

(6)	"	1.6 MHz [Fig. 17]	"	L ₁₀ (OSC Coil) L ₂ (ANT Coil)	Adjust for maximum output.
(7)	"	4.5 MHz [Fig. 18]	"	C ₄₁ (OSC Trimmer) C ₉ (ANT Trimmer)	Adjust for maximum output. Repeat steps (6) and (7).

SW2 ALIGNMENT

(8)	Connect to test point [TP ₁] through 10 PF capacitor. Common to earth.	6 MHz [Fig. 19]	"	L ₁₁ (OSC Coil) L ₃ (ANT Coil)	Adjust for maximum output.
(9)	"	18 MHz [Fig. 20]	"	C ₄₄ (OSC Trimmer)	Adjust for maximum output. Repeat steps (8) and (9).

FM-IF ALIGNMENT

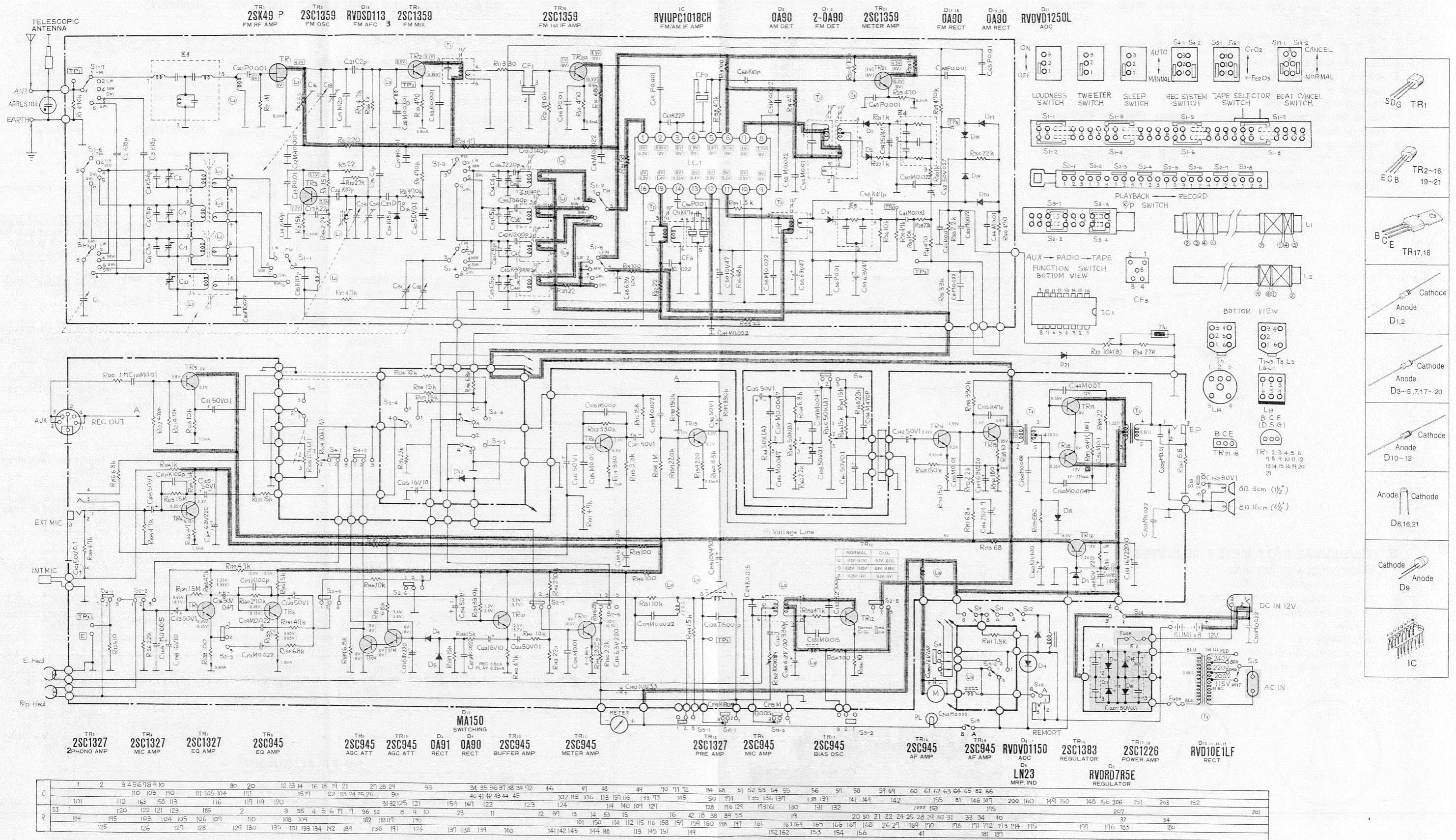
(10)	High side thru. 0.001 μ F to point [TP ₂], Common to earth.	10.7 MHz (400 kHz SWP.)	Point of non-interference. (on/about 90 MHz).	Connect vert. amp. of scope to point [TP ₃], Common to earth.	T ₁ (FM 1st IFT) T ₇ (FM 2nd IFT) (Primary)	Adjust for maximum amplitude and proper linearity between ± 100 kHz markers. (Refer to fig. 9)
(11)	"	"	"	"	T ₈ (FM 2nd IFT) (Secondary)	Adjust T ₈ so that 10.7 MHz marker appears at the center. (Refer to fig. 10)

FM-RF ALIGNMENT

(12)	Connect to point [TP ₁] through FM dummy antenna. Common to earth. (Refer to fig. 11).	87.2 MHz	Tuning gang fully closed.	Output meter across voice coil.	L ₇ (FM OSC Coil)	(*2) Adjust for maximum output.
(13)	"	90 MHz	Tune to signal.	"	L ₅ (FM Tuning Coil)	(*2) Adjust for maximum output.
(14)	"	106 MHz [Fig. 21]	"	"	C ₂₄ (FM OSC Trimmer) C ₁₈ (FM Tuning Trimmer)	(*2) Adjust for maximum output. Repeat steps (12) ~ (14).

(*2) Three output responses will be present; proper tuning is the center frequency.

Schematic Diagram – Model RF-5410DLBS



Notes:

1. S₁₋₁~S₁₋₈: Band selector in "FM" position.
2. S₂₋₁~S₂₋₈: Recording-play selector in "Play" position.
3. S₃₋₁~S₃₋₄: Radio-aux-tape selector in "Tape" position.
4. S₄₋₁, S₄₋₂: Rec switch in "Manual" position.
5. S₅₋₁, S₅₋₂: Tape switch in "Normal" position.
6. S₆: Loudness switch in "OFF" position.
7. S₇: Mic mixing switch in "OFF" position.
8. S₈: Sleep switch in "OFF" position.

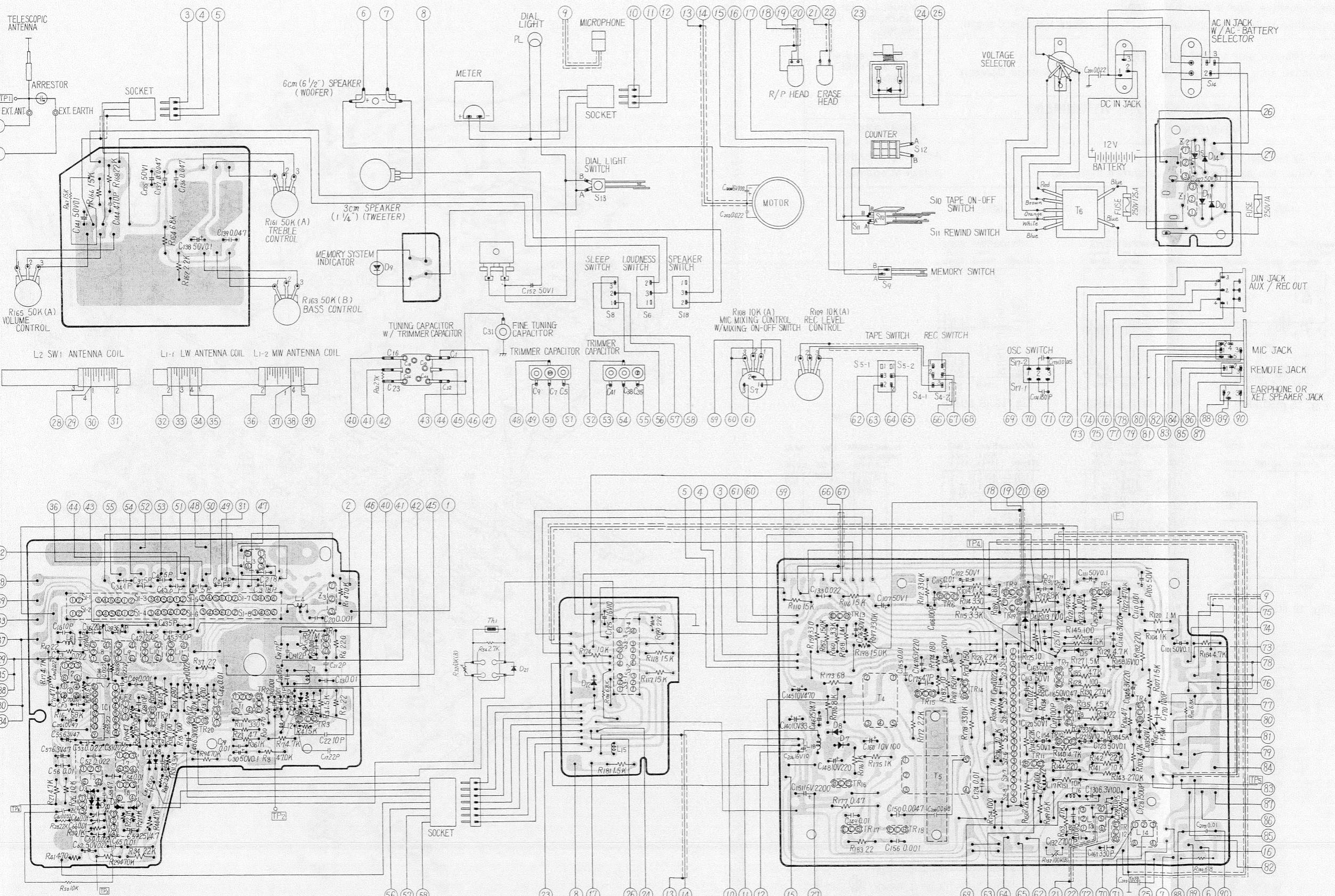
9. S₉: Memory system switch in "OFF" position.
10. S₁₀: Auto switch in "OFF" position.
11. S₁₁: Rewind switch in "OFF" position.
12. S₁₂: Counter switch in "OFF" position.
13. S₁₃: Dial light switch in "OFF" position.
14. S₁₄: AC-battery selector in "Battery" position.
15. S₁₅: Voltage selector in "115V" position.
16. S₁₇₋₁, S₁₇₋₂: OSC switch in "1" position.
17. S₁₈: Speaker switch in "One Way" position.

18. DC voltage measurements are taken with circuit tester
10k Ω /v from negative terminal of battery.
FM position ().....AM position
<>.....Recording positon [].....Play back position

19. Battery current
No signal..... 70mA
Maximum output.....720mA

IMPORTANT SAFETY NOTICE
THE SHADED AREA ON THIS SCHEMATIC DIAGRAM
INCORPORATES SPECIAL FEATURES IMPORTANT
FOR SAFETY.
WHEN SERVICING IT IS ESSENTIAL THAT ONLY
MANUFACTURER'S SPECIFIED PARTS BE USED FOR
THE CRITICAL COMPONENTS IN THE SHADED AREAS
OF THE SCHEMATIC.

Circuit Board Wiring View – Model RF-5410DLBS



TR ₁	TR ₁₁
FM	Recording
D 4.9V	C 12V
G 0V	B 0V
S 0V	E 0V
s 0.8mA	le —
	Play 0~0.6mA

TR ₂		TR ₁₂			
	FM	Normal		Cr ₂ O ₃	
	Rec	Play	Rec	Play	
C	5.1V				
B	0.9V				
E	0.36V				
e	0.5mA				

TR ₃		TR ₁₃	
	FM	C	4.2V
C	5.1V	B	0.15V
B	2.9V	E	0.1V
E	2.2V	I _o	0.45mA
I _a	1.4mA		

TR ₄		TR ₁₄	
C	3.3V	C	1.55V
B	0.05V	B	0.45V
E	0.05V	E	0.2V
I _g	1.1 mA	I _g	0.45 mA

C	5 V	C	5.9 V
B	0.8 V	B	1.5 V
E	2.1 V	E	0.85 V
I _e	0.2 mA	I _e	5 mA

C	2.4V	C	12V
B	0.3V	B	7.2V
E	0.4V	E	6.4V
Ia			1 mA

TR ₇		TR _{17,18}	
Recording	Play	C	12V
C 1.55V	1.55V	B 0.55V	
B 0.05V	0.1V	E 0V	
E 0.05V	0.05V	1e 17~720mA	

TR _B		TR _S		
	Recording	Play	Recording	
C	2.6V	2.6V	5.4V	5.4V
B	0.45V	0.15V	0V	0V
E	0.05V	0.05V	0V	0V

TR ₉			TR ₂₀		
Recording	Play		FM	AM	
C	0 V	0 V	C	4.9 V	0 V

E	0 V	0 V	E	0.3 V	0 V
I _e	0.6 mA			

Recording	Play		FM	AM
C	5.6V	5.7V	4.5V	0V
B	1.3V	3.6V	1V	0V
E	5.6V	5.7V	0.3V	0V

2	0.55V	0V	10	0V	0.8V
3	0V	0V	11	0V	5.3V
4	1.9V	0V	12	0V	5.3V
5	2.6V	0V	13	0V	0.4V
6	4.1V	0V	14	0V	0.35V
7	4V	0V	15	0V	5.4V
8	2.7V	0V	16	0V	0.3V

Positive Voltage Line

RECORDING BIAS ALIGNMENT

CIRCUIT	VTVM CONNECTION	ADJUSTMENT	REMARKS
RECORDING BIAS	Connect positive side to test point TP₅ and negative side to test point E .	L ₁₄ (Bias Voltage Control)	Adjust L ₁₄ for minimum of VTVM reading.
RECORDING BIAS	Connect positive side to test point TP₄ and negative side to test point E .	R ₁₅₂ (Bias Voltage Control)	Adjust R ₁₅₂ for 4mV of VTVM reading.
HEAD AZIMUTH ALIGNMENT			
CIRCUIT	ADJUSTMENT	REMARKS	
R/P HEAD	1. Play the test tape C-AA. 2. Adjust the azimuth screw, as shown in fig. 12.	Adjust for maximum output at speaker.	

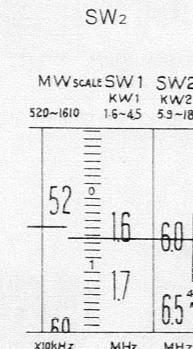
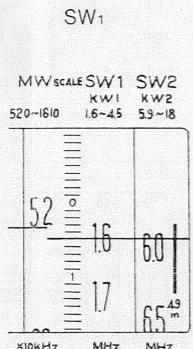
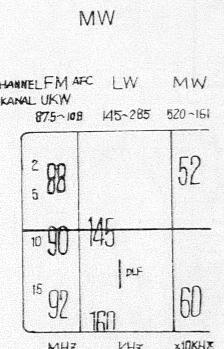
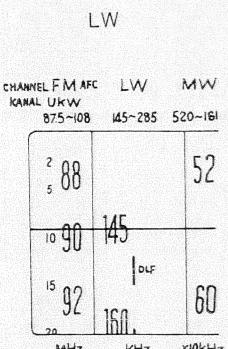


Fig. 13 (145 kHz)

Fig. 15 (550 kHz)

Fig. 17 (1.6 MHz)

Fig. 19 (6 MHz)

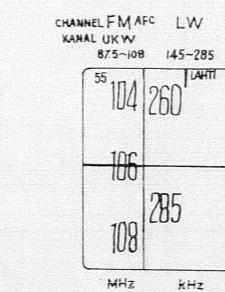
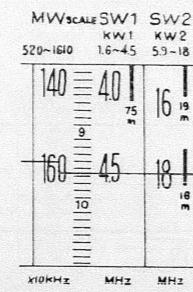
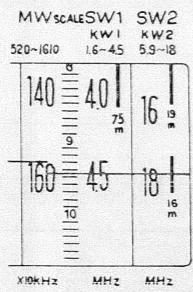
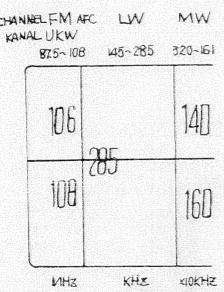
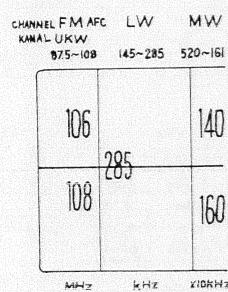


Fig. 14 (285 kHz)

Fig. 16 (1500 kHz)

Fig. 18 (4.5 MHz)

Fig. 20 (18 MHz)

Fig. 21 (106 MHz)

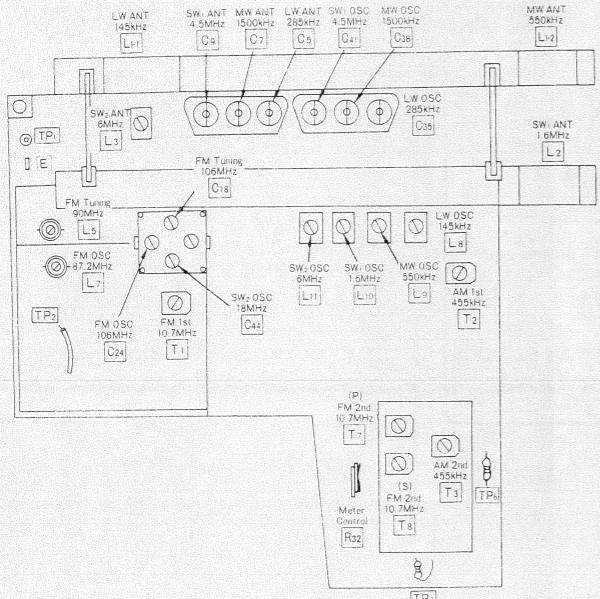


Fig. 22 Alignment Point

MECHANISM PARTS LOCATIONS—TAPE DECK

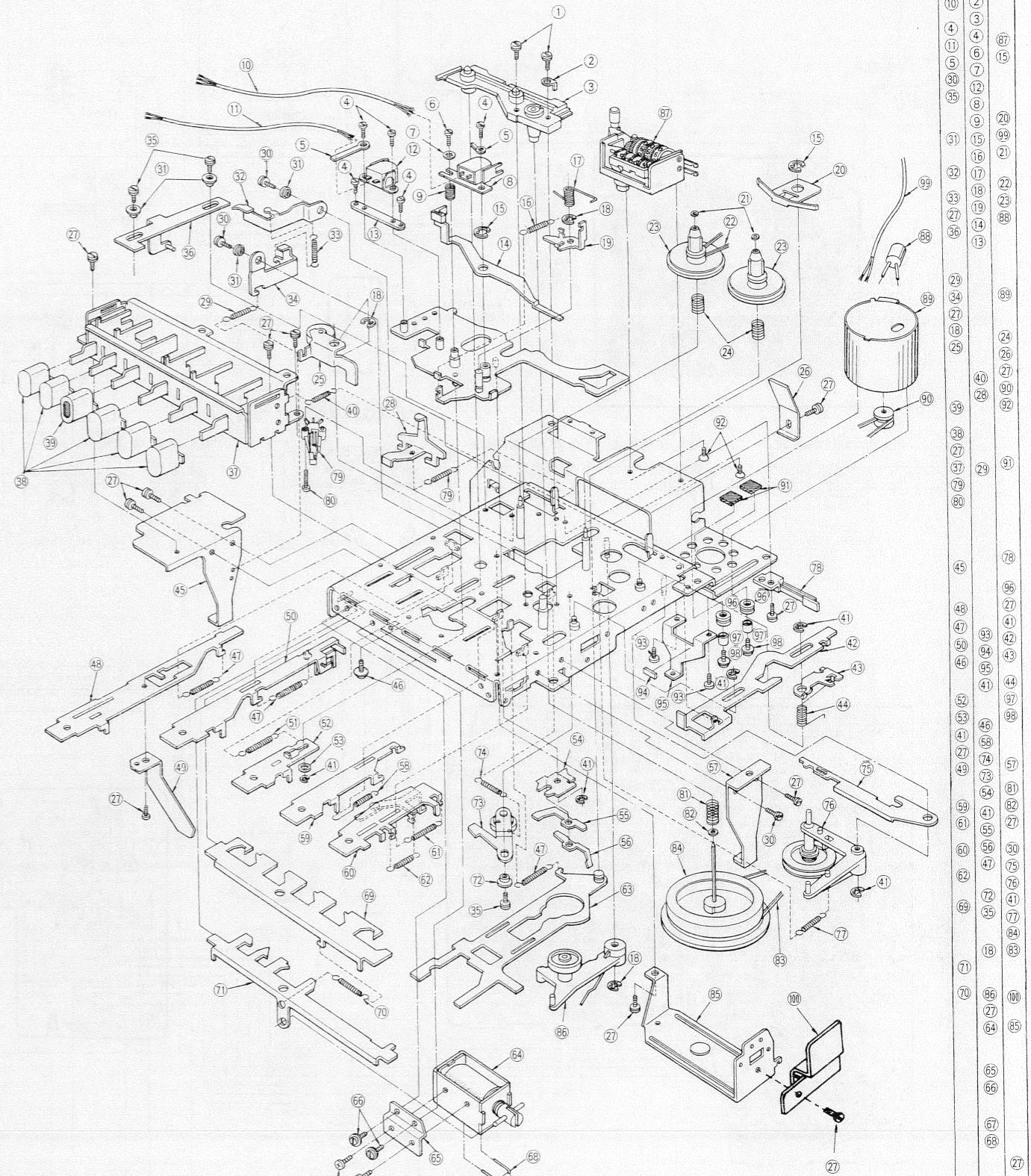


Fig. 23.

■ CABINET PARTS LOCATIONS

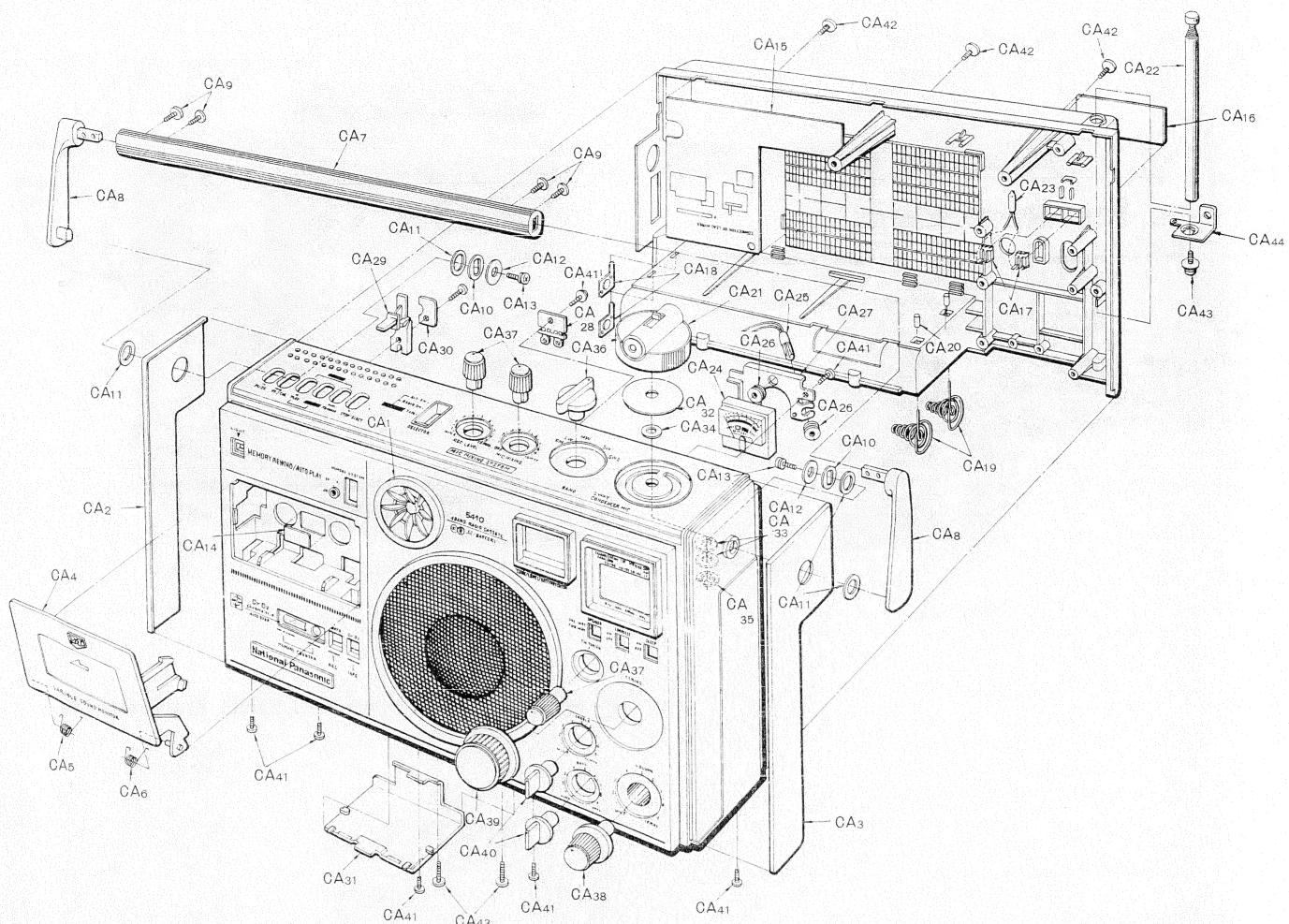


Fig. 24.

■ CHASSIS PARTS LOCATIONS

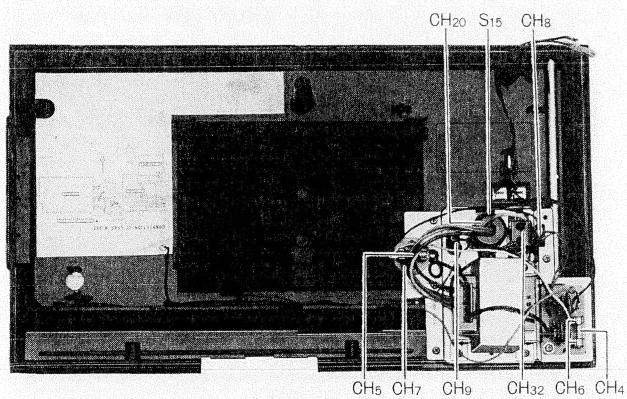


Fig. 25

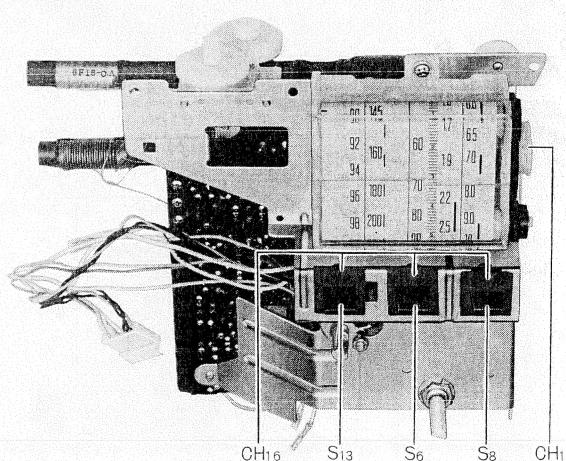


Fig. 26

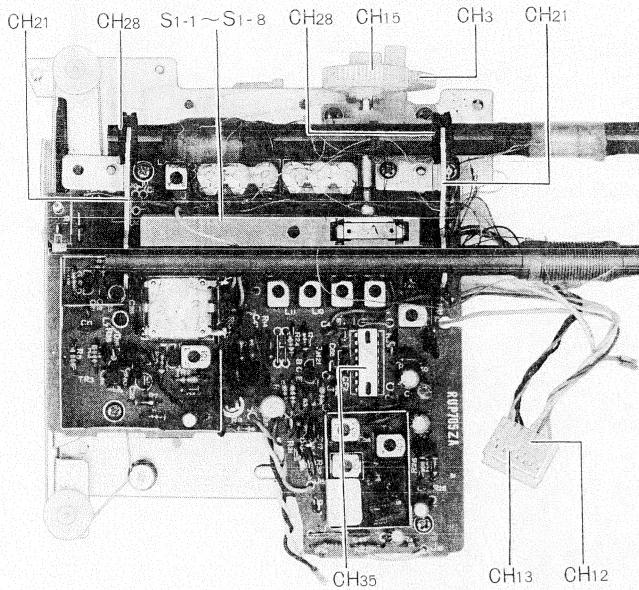


Fig. 27

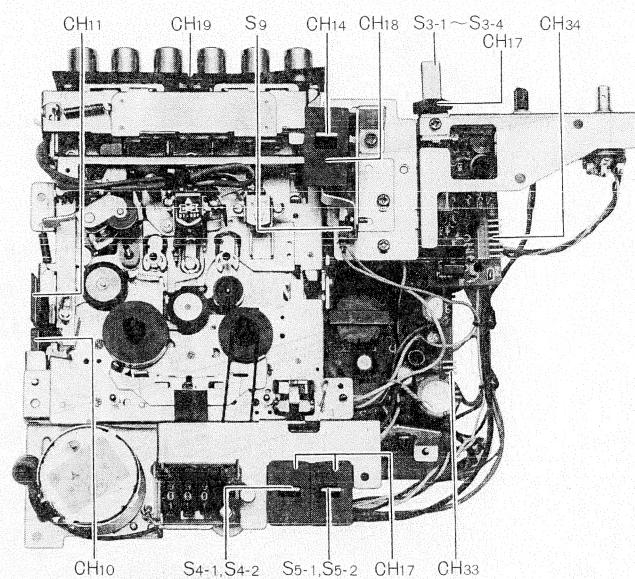


Fig. 28

■ ACCESSORIES AND PACKING MATERIALS

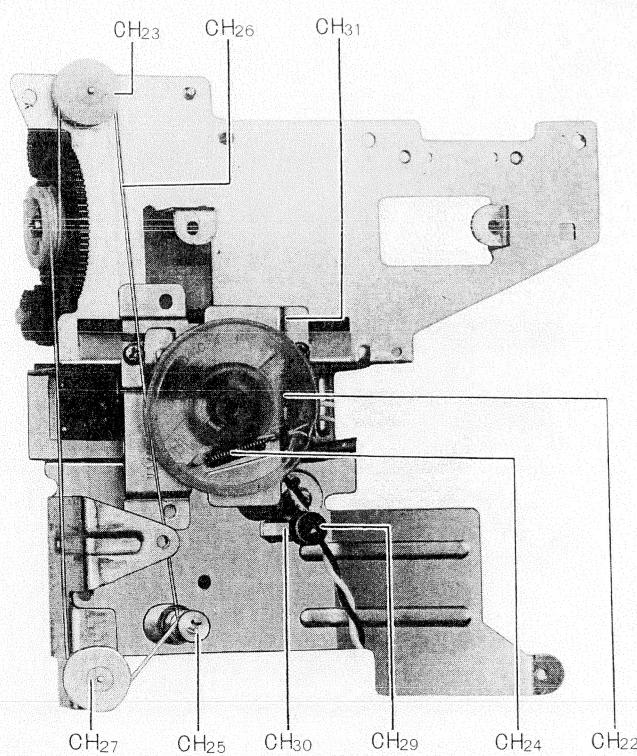


Fig. 29

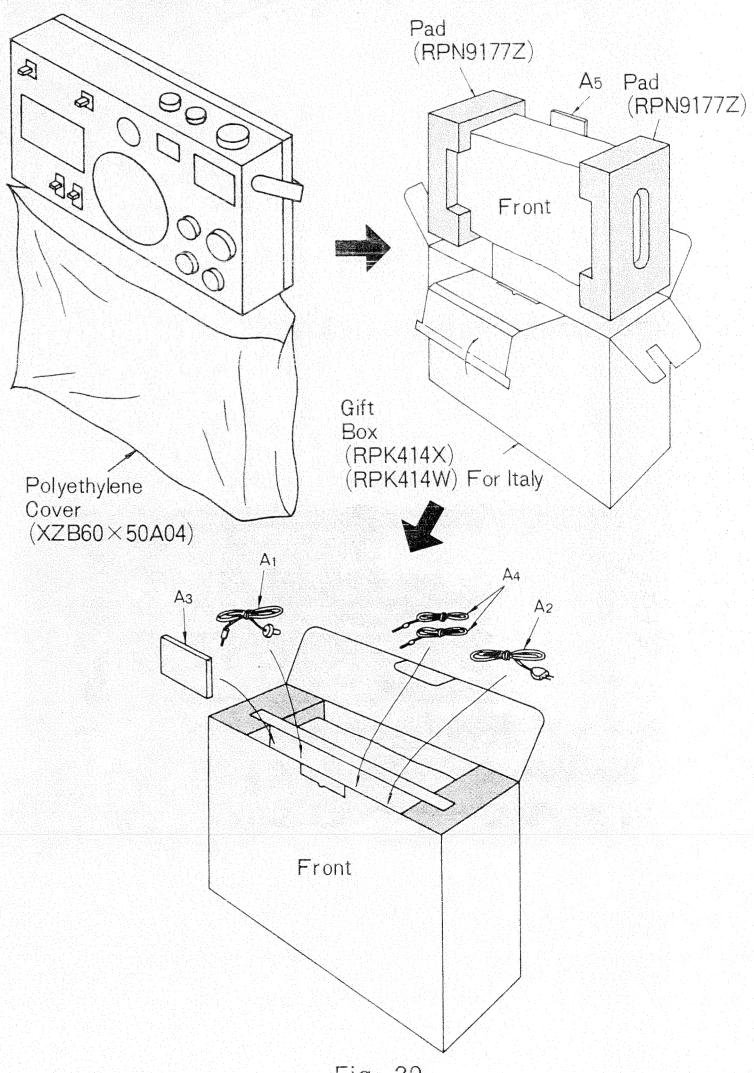


Fig. 30

■REPLACEMENT PARTS LIST.....Model RF-5410DLBS
(RD7704-1470)

NOTES:

1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.
2. **X**—**Z** rank: **X** rank parts will cover 80% of repair needs.
X+Y rank parts will cover 95% of repair needs.
Z rank parts are less necessary.
3. Components identified by shaded area have special characteristic important for safety. When replacing any of these components use only manufacturer's specified parts.
4. Part numbers shown in bold letters are service standard parts and may differ from production parts.
5. The **O** mark is used by the manufacturing plant only.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
INTEGRATED CIRCUIT, TRANSISTORS AND DIODES				
IC	RVIUPC1018CH	IC(Si), FM-AM IF Amplifier & AM Converter	1	OX
TR1	2SK49	Transistor(Si), FM RF Amplifier	1	X
TR2,3,20,21	2SC1359	Transistor(Si), FM Mixer, FM Oscillator, FM 1st IF Amplifier, FM Meter Amplifier	4	X
TR4,5,7,13	2SC1327	Transistor(Si), MIC 1st Amplifier, Equalizer Amplifier, Phono(AUX) Amplifier, Pre Amplifier	4	X
TR6,8,9,10,11,12,14,15,19	2SC945	Transistor(Si), MIC 2nd Amplifier, Equalizer 2nd Amplifier, Meter Amplifier, AGC, Buffer Amplifier, AF 2nd Amplifier, AF 1st Amplifier, Bias Oscillator, AGC	9	X
TR16	2SC1383	Transistor(Si), Regulator	1	X
TR17,18	2SC1226	Transistor(Si), Power Amplifier	2	X
D1,2	2-OA90	Diode(Ge), FM Detector	1 Pair	X
D3,5,17,18,19,20	OA90	Diode(Ge), AM Detector, Rectifier	6	X
D4	OA91	Diode(Ge), Rectifier	1	X
D7	RVDRD7R5EB	Diode(Si), Zener	1	X
D8	RVDVD1150L	Diode(Si), Operation Compensator	1	X
D9	LN23	Diode(Ga), MRP Indicator	1	X
D10,11,14,15	RVD10E1LF	Diode(Si), Rectifier	4	X
D16	RVDSD113	Diode(Si), AFC	1	X
D12	MA150	Diode(Si), Switching	1	X
D21	RVDVD1250L	Diode(Si), Operation Compensator	1	X
THERMISTOR				
Th1	RRT202	Temperature Compensator	1	Y
CERAMIC FILTERS, COILS AND TRANSFORMERS				
CF1,2	RVFCF10S12CB	Ceramic Filter	2	Y

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
CF3	RVFSFD455D	Ceramic Filter	1	Y
L1-1,L1-2	RLF6F18	Ferrite Antenna Coil, LW & MW (RLF6F18-O)	1	X
L2	RLF3F3	Ferrite Antenna Coil, SW1(RLF3F3-O)	1	X
L3	RLA3M10	Antenna Coil, SW2	1	X
L4	RLA4Y6	Coil, FM Matching	1	X
L5	RLD4N30	Coil, FM Tuning	1	X
L6,12	RLQY30S1	Coil, Trap	2	Y
L7	RL04N53	Oscillator Coil, FM	1	X
L8	RL01M4	Oscillator Coil, LW (RL01M4-K)	1	X
L9	RL02M14	Oscillator Coil, MW	1	X
L10	RL03M32	Oscillator Coil, SW1	1	X
L11	RL03M31	Oscillator Coil, SW2 (RL03M31-K)	1	X
L13	RL09C16	Oscillator Coil, Bias	1	X
L14	RLE5001	Coil, Bias Trap	1	X
T1	RL14M101	IFT, FM 1st	1	X
T2	RL12M213	IFT, AM 1st	1	X
T3	RL12M401	IFT, AM 2nd	1	X
T4	RLT3G30	Input Transformer, P=1.4KΩ:S=1.4KΩ	1	X
T5	RLT2I15	Output Transformer, P=50Ω:S=8Ω	1	X
T6	RLT5L90	Power Transformer	1	X
T7	RLI4M504	IFT, FM 2nd(Primary)	1	X
T8	RLI4M506	IFT, FM 2nd(Secondary)	1	X
VARIABLE RESISTORS				
R108	EVHCMG091A14	10KΩ(A), Mic Mixing Control/W Mixing, ON-OFF Switch	1	OX
R109	EVHCM095A14	10KΩ(A), Rec Level Control	1	X
R163	EVH5XAF15B54	50KΩ(B), Bass Control	1	X
R161	EVH5XAF15A54	50KΩ(A), Treble Control	1	X
R165	EVH5XAF15A54	50KΩ(A), Volume Control	1	X
R152	EVLTOAA00B15	100KΩ(B), Bias Control	1	X
R32	EVLTOAA00B14	10KΩ(B), Meter Control	1	X
VARIABLE CAPACITORS				
C1,16,32	PVC22K20T1LG	Tuning Capacitor, W/Trimmer (C10,18,23,24,44)	1	X
C5,7,9,35,38,41	RCV3T-16M	Trimmer	2	X
C31	RCVFT1-19-4	Tuning Capacitor	1	X
COMPONENT COMBINATIONS				
Z1,2	RXAFl03P22HD	Component Combination, 0.01μF×2	2	Y
Z3	RXABPF10801H	Component Combination, Coils & Capacitors	1	Y
Z4	EXA5DL04C	Component Combination, 330PF×2, 4.7KΩ×2	1	Y
Z5	EXAF203Z471R	Component Combination, 0.01μF×2, 470Ω	1	Y

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	Ref. No.	Part No.	Part Name & Description	Per Set	Remarks					
SPEAKER														
SP1	EAS3KH01SB	Tweeter, 3cm(1 1/4") PM Dynamic Speaker, Imp. 8Ω	1	X	R34,35,126, 142,168,190	ERD25TJ223	22KΩ, 1/2 Watt, ±5%, Carbon	6	Z					
SP2	RAS16P11	Woofers, 16cm(6 1/2") PM Dynamic Speaker, Imp. 8Ω	1	X	R38,153	ERD25TJ473	47KΩ, 1/2 Watt, ±5%, Carbon	2	Z					
SWITCHES														
S1-1~S1-8	RSR5H01ZK-A	Switch, Band	1	X	R16,134	ERD25TJ683	68KΩ, 1/2 Watt, ±5%, Carbon	2	Z					
S2-1~S2-8	RSH65Z-P	Switch, Recording-Play	1	X	R169,198	ERD25TJ154	150KΩ, 1/2 Watt, ±5%, Carbon	2	Z					
S3-1~S3-4	RST30YS-H	Switch, Radio-Aux-Tape	1	X	R112,139,178 197	ERD25TJ334	330KΩ, 1/2 Watt, ±5%, Carbon	4	Z					
S4-1, S4-2	RST68YS-H	Switch, Rec & Tape	2	X	R1,8,9,12,20, 29,121,122	ERD25TJ474	470KΩ, 1/2 Watt, ±5%, Carbon	8	Z					
S5-1, S5-2					R2,120,158	ERD25TJ105	1MΩ, 1/2 Watt, ±5%, Carbon	3	Z					
S6,8,18	RSS43E	Switch, Loudness, Sleep & Speaker	3	X	R105,127	ERD25TJ155	1.5MΩ, 1/2 Watt, ±5%, Carbon	2	Z					
S9	RSH43Z-H	Switch, Memory System	1	X	R174	ERD25TJ181	180Ω, 1/2 Watt, ±5%, Carbon	1	Z					
S15	ESE-3715	Switch, Voltage Selector	1	X	R157	ERD25TJ224	220KΩ, 1/2 Watt, ±5%, Carbon	1	Z					
S17-1, S17-2	RSS153	Switch, OSC	1	X	R130,143	ERD25TJ274	270KΩ, 1/2 Watt, ±5%, Carbon	2	Z					
					R177	ERX1ANJR47	0.47Ω, 1Watt, ±5%, Metal Oxide	1	Z					
					R180	ERX3ANJ6R8	6.8Ω, 3Watt, ±5%, Metal Oxide	1	Z					
					R52,54	ERD25TJ272	2.7KΩ, 1/2 Watt, ±5%, Carbon	2	Z					
					R148	ERD25TJ273	27KΩ, 1/2 Watt, ±5%, Carbon	1	Z					
RESISTORS														
R125,187,156	ERD25TJ100	10Ω, 1/2 Watt, ±5%, Carbon	3	Z	CAPACITORS									
R5,37,42,133, 183,55	ERD25TJ220	22Ω, 1/2 Watt, ±5%, Carbon	6	Z	C25	ECCD1H010C	1PF, 50WV, ±0.25PF, Ceramic	1	Z					
R19,23,106	ERD25TJ470	47Ω, 1/2 Watt, ±5%, Carbon	3	Z	C21	ECCD1H020C	2PF, 50WV, ±0.25PF, Ceramic	1	Z					
R53,173	ERD25TJ680	68Ω, 1/2 Watt, ±5%, Carbon	2	Z	C8	ECCD1H030C	3PF, 50WV, ±0.25PF, Ceramic	1	Z					
R15,18,113, 128,145,154	ERD25TJ101	100Ω, 1/2 Watt, ±5%, Carbon	6	Z	C34	ECCD1H040C	4PF, 50WV, ±0.25PF, Ceramic	1	Z					
R170	ERD25TJ151	150Ω, 1/2 Watt, ±5%, Carbon	1	Z	C6,37,40,43	ECCD1H050C	5PF, 50WV, ±0.25PF, Ceramic	4	Z					
R6,144,182	ERD25TJ221	220Ω, 1/2 Watt, ±5%, Carbon	3	Z	C27	ECCD1H070DC	7PF, 50WV, ±0.5PF, Ceramic	1	Z					
R11,114,159	ERD25TJ331	330Ω, 1/2 Watt, ±5%, Carbon	3	Z	C14,15,22,68	ECCD1H100KC	10PF, 50WV, ±10%, Ceramic	4	Z					
R10,13,25,40, 41	ERD25TJ471	470Ω, 1/2 Watt, ±5%, Carbon	5	Z	C19	ECCD1H120KC	12PF, 50WV, ±10%, Ceramic	1	Z					
R14,175	ERD25TJ681	680Ω, 1/2 Watt, ±5%, Carbon	2	Z	C26	ECCD1H150KC	15PF, 50WV, ±10%, Ceramic	1	Z					
R21,22,30,36, 104,176	ERD25TJ102	1KΩ, 1/2 Watt, ±5%, Carbon	6	Z	C2,3	ECCD1H180KC	18PF, 50WV, ±10%, Ceramic	2	Z					
R3,24,107, 135,39,138, 181	ERD25TJ152	1.5KΩ, 1/2 Watt, ±5%, Carbon	7	Z	C17	ECCD1H220KC	22PF, 50WV, ±10%, Ceramic	1	Z					
R33,150,162, 172,28	ERD25TJ222	2.2KΩ, 1/2 Watt, ±5%, Carbon	5	Z	C58,71,175	ECCD1H470KC	47PF, 50WV, ±10%, Ceramic	3	Z					
R31,115,160	ERD25TJ332	3.3KΩ, 1/2 Watt, ±5%, Carbon	3	Z	C4	ECCD1H560K	56PF, 50WV, ±10%, Ceramic	1	Z					
R7,17,27,101, 103,129,131, 140,184,185	ERD25TJ472	4.7KΩ, 1/2 Watt, ±5%, Carbon	10	Z	C106,117,170	ECCD1H101K	100PF, 50WV, ±10%, Ceramic	3	Z					
R164,171,189 191,196,195	ERD25TJ682	6.8KΩ, 1/2 Watt, ±5%, Carbon	6	Z	C20,49,63,69	ECKD1H102PF	0.001μF, 50WV, ±10%, Ceramic	4	Z					
R26,50,123, 124,141,151, 136	ERD25TJ103	10KΩ, 1/2 Watt, ±5%, Carbon	7	Z	C13,46,56,65, 70	ECKE1H103PF	0.01μF, 50WV, ±10%, Ceramic	5	Z					
R4,110,116, 117,118,137 149,166, 167	ERD25TJ153	15KΩ, 1/2 Watt, ±5%, Carbon	9	Z	C144	ECKE1H471MD	0.00047μF, 50WV, ±20%, Ceramic	1	Z					
					C12	ECKV1H102MD	0.001μF, 50WV, ±20%, Ceramic	1	Z					
					C28,33	ECKE1H102MD	0.001μF, 50WV, ±20%, Ceramic	2	Z					
					C163	ECKE1H152MD	0.0015μF, 50WV, ±20%, Ceramic	1	Z					
					C127	ECKE1H222MD	0.0022μF, 50WV, ±20%, Ceramic	1	Z					
					C137,150	ECKE1H472MD	0.0047μF, 50WV, ±20%, Ceramic	2	Z					
					C29,54,64,66, 110,115,124 149,155,205	ECKE1H103MD	0.01μF, 50WV, ±20%, Ceramic	10	Z					
					C47,51,52,53, 60,73,80,81, 82,84,119, 201,203,133 167,171	ECKE1H223MD	0.022μF, 50WV, ±20%, Ceramic	16	Z					
					C36	ECQS1221JZ	220PF, 125WV, ±5%, Styrol	1	Z					
					C161	ECQS1331JZ	330PF, 125WV, ±5%, Styrol	1	Z					

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	
C39	ECQS1361JZ	360PF, 125WV,±5%, Styrol	1	Z	
C42	ECQS05122KZ	1200PF, 50WV,±10%, Styrol	1	Z	
C128	ECQS05152JZ	1500PF, 50WV,±5%, Styrol	1	Z	
C132	ECQS05272KZ	2700PF, 50WV,±10%, Styrol	1	Z	
C45	ECQS05392KZ	3900PF, 50WV,±10%, Styrol	1	Z	
C72	ECMS05141JH	140PF, 50WV,±5%, Mica	1	Z	
C173	ECQG05152MZ	0.0015μF, 50WV,±20%, Polyester	1	Z	
C131	ECQG05153MZ	0.015μF, 50WV,±20%, Polyester	1	Z	
C136,139	ECQG05473MZ	0.047μF, 50WV,±20%, Polyester	2	Z	
C156	ECQG05104MZ	0.1μF, 50WV,±20%, Polyester	1	Z	
C129	ECQM05153KZ	0.015μF, 50WV,±10%, Polyester	1	Z	
C30,101,111, 123,138,141 207	ECEA50ZR1	0.1μF, 50WV, Electrolytic	7	Y	
C116	ECEA50ZR47	0.47μF, 50WV, Electrolytic	1	Y	
C102,103,105 107,113,120 135,142,154 176	ECEA50V1	1μF, 50WV, Electrolytic	10	Y	
C59,146	ECEA35V4R7	4.7μF, 35WV, Electrolytic	2	Y	
C48,130,157, 160	ECEA10V100	100μF, 10WV, Electrolytic	4	Y	
C104,114,121 147	ECEA6V220	220μF, 6.3WV, Electrolytic	4	Y	
C140	ECEA16V33	33μF, 16WV, Electrolytic	1	Y	
C148	ECEA16V220	220μF, 16WV, Electrolytic	1	Y	
C145	ECEA16V470	470μF, 16WV, Electrolytic	1	Y	
C122,125,158	ECEA16V10	10μF, 16WV, Electrolytic	3	Y	
C151	ECEA16V2200	2200μF, 16WV, Electrolytic	1	Y	
C50,55,57	ECEA16V47	47μF, 16WV, Electrolytic	2	Y	
C62	ECEA50ZR22	0.22μF, 50WV, Electrolytic	1	Y	
C162	ECEB50Y1	1μF, 50WV, Electrolytic	1	Y	
C61	ECQG05333MZ	0.033μF, 50WV,±20%, Polyester	1	Z	
C67	ECCD1H270KC	27PF, 50WV,±10%, Ceramic	1	Z	
C1000	ECEA16V100	100μF, 16WV, Electrolytic	1	Y	
C174,206	ECCD1H181K	180PF, 50WV,±10%, Ceramic	2	Z	
C200	ECQG05683MZ	0.068μF, 50WV,±20%, Polyester	1	Z	

CABINET

CA1	RYMF5410DLBS	Cabinet Body Assembly	1	OX
CA2	RBZ4275Z	Ornament, Tweeter	1	Z
CA3	RGX721Z	Ornament, Cabinet Left Side	1	Z
CA4	RGX722Z	Ornament, Cabinet Right Side	1	Z
CA5	RKE9023U	Cassette Lid	1	Y
CA6	RUS294Z	Spring(Left Side), Cassette Lid	1	Y
CA7	RUS293Z	Spring(Right Side), Cassette Lid	1	Y
CA8	RMD3046Z	Bracket, Cassette Lid	1	Z
CA9	RYHR5410BX	Handle Assembly	1	X
CA10	RKX100YS	Arm, Handle	2	Y
CA11	XSB3+6BNS	Screw, Handle M'tg	4	Z
CA12	RHM58Z	Washer, Arm M'tg	2	Z
	RNW823	Washer, Arm M'tg	4	Z
	XWG3F10	Washer, Arm M'tg	2	Z

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	
CA13	XYN3+C8S	Screw, Arm M'tg	2	Z	
CA14	RHP567B	Sheet, Cassette Tape	1	Z	
	RYFF5410DLBS	Cabinet Back Cover Assembly	1	OX	
	RYFF5410DLBI	Cabinet Back Cover Assembly, Only for Italy	1	OX	
CA15	RMC368Y	Shield Plate	1	Z	
CA16	RGT493W	Name Plate	1	OZ	
CA16	RGT493X	Name Plate, Only for Italy	1	OZ	
CA17	RJS71Z	Terminal, EXT. Ant. & Earth	2	Y	
CA18	RJC111A	Terminal, Battery \oplus Side	2	Y	
CA19	RJC505Z	Spring, Battery \ominus Side	2	Y	
CA20	RJT398A	Connecting Pipe, Battery Spring	2	Z	
CA21	RWEF5410LBSX	Microphone Assembly	1	X	
CA22	XEARS159GASY	Telescopic Antenna, 7 Steps, 1178.5mm	1	X	
CA23	XAN5T25	Neon Lamp, 100V, 0.4mA	1	X	
CA24	RSM2607WK	Meter, TUNE/LEVEL/BATT	1	X	
CA25	XAMR52T100	Pilot Lamp, Dial & Meter	1	X	
CA26	RHG211	Rubber Cushion, Pilot Lamp	2	Z	
CA27	RMM24Z	Bracket, Meter	1	Z	
CA28	RJR1B	Terminal Strip(2 Terminals), Speaker	1	Z	
	RJS253Z-X	Socket(3 Terminals), PC Board	3	Z	
CA29	RBC97Z	Button, Dial Light	1	Y	
CA30	RUL428Z	Bracket, Dial Light Button	1	Z	
CA31	RK108Z	Cover, Battery Compartment	1	X	
CA32	RHG422Z	Rubber Cushion, Microphone	1	Z	
CA33	RNW823Z	Washer, Microphone Assembly	2	Z	
CA34	RNW824Z	Washer, Microphone Assembly	1	Z	
CA35	XUC6FW	Circlip, Microphone Assembly	1	Z	
CA36	RBS83YK	Knob, Selector	1	X	
CA37	RBN283Y	Knob, Fine Tuning, Mic Mixing & Rec Level	3	X	
CA38	RBN284Y	Knob, Volume	1	X	
CA39	RBN294Z	Knob, Tuning	1	X	
CA40	RBS85Y	Knob, Bass & Treble	2	X	
CA41	XTW3+10F	Screw, Cabinet Back Cover, Meter and etc. M'tg	7	Z	
CA42	XTB3+12CFN	Screw, Cabinet Back Cover M'tg	3	Z	
CA43	XYN3+F8S	Screw, Cabinet Back Cover, Telescopic Antenna & PC Board M'tg	3	Z	
CA44	XTN3+10C	Screw, Bracket(Telescopic Ant.) M'tg	1	Z	
	RMA151Z	Bracket, Telescopic Antenna	1	Z	

CHASSIS

CH1	RXF5410LBSX	Chassis Assembly	1	X
CH2(Fig.7)	RYDF5410LBSX	Dial Assembly	1	X
	RDD200Z	Drum(Small), Dial	1	Y
	XTW3+10F	Screw, Drum (RDD200Z) M'tg	1	Z
	XWC3B	Washer, Drum M'tg	1	Z
CH3	RDG9003Y	Gear Assembly, Band Selector	1	X
CH4	XBA2C10TRO	Fuse, 1A	1	X
CH5	XBA2C12TRO	Fuse, 1A	1	X
CH6	RJF7A	Holder, Fuse	2	Z
CH7	RJF3B	Holder, Fuse	1	Z

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	
CH8	RJJ30Z-H	Jack, EXT. Power Source(AC IN)	1	Y	
CH9	RJJ104Z-C	Jack, EXT. Power Source(DC IN)	1	Y	
CH10	RJJ106Z-C	Jack, Mic, Remote & Earphone	1	Y	
CH11	RJS111Z-H	Din Jack, Aux & Rec Out	1	Y	
CH12	RJS219Z-X	Socket(7 Terminals), Sleep-Switch & PC Board	1	Z	
	RJS253Z-X	Socket(3 Terminals), PC Board & Mic Mixing	2	Z	
CH13	RJT462Z-X	Terminal, Socket(RJS253Z-X & RJS219Z-X)	16	Z	
CH14	RUB9018Z	Lever, Memory System Switch	1	Y	
CH15	RDG5642Y	Gear, Band Selector	1	Y	
CH16	RHG845Y	Cover, Sleep, Loudness & Speaker	3	Z	
CH17	RUV379Z	Cover, Selector, Rec & Tape	3	Z	
CH18	RUV400Z	Cover, Memory System	1	Z	
CH19	RUV401Z	Cover, Play, Eject and etc. Button	1	Z	
CH20	RUV387Z	Cover, Voltage Selector	1	Z	
	RUV35A	Cover, OSC Switch	1	Z	
CH21	RMA152Z	Bracket, Ferrite Ant.	2	Z	
CH22	RDD410Z	Drum(Large), Dial	1	Y	
CH23	RDR23	Pulley, Dial	2	Y	
CH24	RDS4062A	Spring, Dial	1	Z	
CH25	RDT2273Y	Shaft, Tuning	1	Y	
CH26	RDZ05A	Cord(500m), Dial	1 Roll	Y	
CH27	RNW150-2	Washer(Nylon), Pulley	2	Z	
	RHG5A	Rubber Cushion, Tuning Capacitor	1	Z	
CH28	RHG109	Rubber Cushion, Ferrite Ant.	4	Z	
CH29	RHG707Z	Rubber Cushion, Stay Shaft	1	Z	
CH30	RHD3100AS	Stay Shaft, PC Board(RF Circuit)	1	Z	
CH31	RUL417Y	Bracket, Dial Drum	1	Z	
CH32	RJE10Z	Cover, EXT. Power Source Jack (AC IN)	1	Z	
CH33	RJP133Z	Plug(3 Terminals), Socket (RJS253Z-X)	2	Z	
CH34	RJP135Z	Plug(7 Terminals), Socket (RJS219Z-X)	1	Z	
	RUL424Z	Bracket, Transformer	1	Z	
CH35	RMW127Z	Bracket, OSC Switch	1	Z	
	RMG171Y	Shield Cover, IC	1	Z	
	RMX72A	Holder, Transistor	1	Z	
	RMX73A	Insulating Plate, Transistor	1	Z	
	XSN2+W4	Screw, OSC Switch M'tg	2	Z	
	XSN2+4	Screw, Sleep, Speaker & Loudness Switch M'tg	3	Z	
	XSN2+6	Screw, DC IN Jack M'tg	2	Z	
	XSN2+W6	Screw, Memory System Switch M'tg	1	Z	
	XSN26+6	Screw, Tuning Capacitor M'tg	2	Z	
	XYN3+C6S	Screw, Rec & Tape Switch M'tg	3	Z	
CH36(Fig.3)	XTN3+8F	Screw, Transistor M'tg	1	Z	
CH37(Fig.2)	XTN3+10CR	Red Screw, Chassis M'tg	10	Z	
CH38(Fig.4)	XTW3+6L	Screw, PC Board & Gear M'tg	6	Z	
CH39(Fig.3)	XTW3+10L	Screw, PC Board M'tg	3	Z	
	XNG3CS	Nut, Stay Shaft M'tg	1	Z	
	XNS8	Nut, Tuning Shaft, Bass, Volume & Treble Control etc. M'tg	6	Z	
	XWA3B	Washer, Stay Shaft M'tg	1	Z	
	XWG3F13	Washer, Transistor	1	Z	

Ref. No.	Part No.	Part Name & Description	Per Per	Remarks	
	XWV8	Washer, Tuning Shaft, Mic Mixing & Rec Level M'tg	3	Z	
CH40(Fig.4)	XYN3+F8S	Screw, PC Board M'tg	1	Z	
CH41(Fig.3)	XYN3+F6S	Screw, PC Board M'tg	2	Z	
CH42(Fig.3)	XTN3+6F	Screw, OSC Switch Bracket M'tg	1	Z	
	RJR801-2	Terminal Strip	1	Z	
	RJR18B	Terminal Strip	1	Z	
	RUS309Z	Terminal, Dial Light	1	Y	
	RUL522Z	Bracket, Dial Light	1	Z	

ACCESSORIES

A1	XEH1A1-P	Earphone, Impedance 8Ω	1	Y
A2	RJA20Z-K	Power Cord, AC	1	Y
A3	RJN12Z	Cassette Tape	1	Y
A4	RJP44	Plug, EXT. Ant. & Earth	2	Y
A5	RQX5978Y	Instruction Book	1	○Y

TAPE DECK

	RJD4061ZS	Tape Deck Assembly	1	○X
1	RMQ690Z	Screw, Flywheel Shaft Holder M'tg	2	Z
2	RMQ691Z	Terminal, Earth	1	Z
3	RMQ692Z	Holder, Flywheel Shaft	1	Y
4	XSN2+4	Screw, Head & Head Base M'tg	5	Z
5	RMQ117A	Lead Clamp, Head Lead M'tg	2	Z
6	XSN2+6	Screw, R/P Head M'tg, Azimuth Adjusting	1	Z
7	RMQ694Z	Washer, R/P Head	1	Z
8	WY-061Y	R/P Head	1	X
9	RMQ116A	Spring, R/P Head	1	Y
10	RMQ645Z	Lead Assembly, R/P Head	1	Y
11	RMQ646Z	Lead Assembly, Erase Head	1	Y
12	RJH26Z	Erase Head	1	X
13	RMQ797Z	Bracket, Erase Head	1	○Z
14	RMQ997Z	Lever Assembly, Auto-Stop Sensing	1	Z
15	XUC4FW	Circlip, Brake & Auto-Stop Sensing	2	Z
16	RMQ764Z	Lever Assembly M'tg	1	Y
17	RMQ794Z	Spring, Lever(RMQ765Z)	1	Y
18	XUC3FW	Spring, Pinch Arm Assembly	1	Z
19	RMQ765Z	Circlip, Lever(RMQ765Z), Pinch Arm Assembly & etc.	3	Z
20	RMQ701Z	Lever(RMQ765Z)	1	Z
21	RMQ309A	Brake	1	Z
22	RMQ698Z	Washer, Reel Table M'tg	1	Z
23	RMQ699Z	Belt, Counter	1	X
24	RMQ700Z	Reel Table	2	X
25	RMQ539Z	Spring, Reel Table	2	Y
26	RMQ604Z	Pinch Arm Assembly	1	Y
27	XYN26+C4	Retainer, Cassette Tape	1	Z
28	RMQ703Z	Screw, Button Mechanism Assembly & etc. M'tg	14	Z
29	RMQ321A	Lever, Safety	1	Z
		Spring, Safety Lever & Pop-up Lever	2	Y

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	
30	XYN26+C6	Screw,Pop-up Lever & etc. M'tg	3	Z	
31	RMQ713Z	Spacer,Eject & Pop-up Lever	4	Z	
32	RMQ798Z	Pop-up Lever(Large)	1	Z	
33	RMQ139A	Spring,Pop-up Lever	1	Y	
34	RMQ799Z	Pop-up Lever(Small)	1	Z	
35	XYN26+C5	Screw,Eject Lever & etc. M'tg	3	Z	
36	RMQ800Z	Eject Lever	1	Z	
37	RMQ801Z	Button Mechanism Assembly	1	Y	
38	RMQ814Z	Button,REWIND & etc.	5	X	
39	RMQ815Z	Button,RECORD	1	X	
40	RMQ714Z	Spring,Button Mechanism Assembly	1	Y	
41	XUC2FW	Circlip, Pause Lever & etc. M'tg	5	Z	
42	RMQ802Z	Lever, Pause	1	Z	
43	RMQ658Z	Lever, Lock	1	Z	
44	RMQ712Z	Spring, Lock Lever	1	Y	
45	RMQ803Z	Bracket	1	Z	
46	RMQ718Z	Screw, Flywheel Shaft Holder M'tg	1	Z	
47	RMQ720Z	Spring, Recording, Rewind & Leaf Switch Lever	3	Y	
48	RMQ804Z	Lever, Recording	1	Z	
49	RMQ805Z	Spring, Recording Lever	1	Y	
50	RMQ796Z	Lever, Rewind	1	Z	
51	RMQ793Z	Spring, Play Lever	1	Y	
52	RMQ769Z	Lever, Play	1	Z	
53	RMQ770Z	Spacer, Play Lever	1	Z	
54	RMQ767Z	Bracket, Head Base Assembly	1	Z	
55	RMQ806Z	Lever, Review	1	Z	
56	RMQ768Z	Lever, Review	1	Z	
57	RMQ807Z	Bracket	1	Z	
58	RMQ725Z	Spring, Fast Forward Lever	1	Y	
59	RMQ757Z	Lever, Fast Forward	1	Z	
60	RMQ758Z	Lever, Eject	1	Z	
61	RMQ332A	Spring, Eject Lever	1	Y	
62	RMQ726Z	Spring, Eject Lever	1	Y	
63	RMQ727Z	Lever, Leaf Switch	1	Z	
64	RMQ808Z	Plunger Assembly	1	Z	
65	RMQ809Z	Bracket, Plunger Assembly	1	Z	
66	XYN26+C4	Screw, Plunger Assembly M'tg	2	Z	
67	XYN3+C6S	Screw, Plunger Assembly M'tg	2	Z	
68	RVD10D1	Diode	1	X	
69	RMQ810Z	Bracket(Large), Lever	1	Z	
70	RMQ737Z	Spring, Bracket	1	Y	
71	RMQ811Z	Bracket(Small), Lever	1	Z	
72	RMQ729Z	Spacer, Idler Lever Assembly	1	Z	
73	RMQ728Z	Lever Assembly, Idler	1	Z	
74	RMQ337A	Spring, Idler Lever Assembly	1	Y	
75	RMQ788Z	Lever	1	Z	
76	RMQ717Z	Tension Arm Assembly	1	Z	
77	RMQ328A	Spring, Tension Arm Assembly	1	Y	
78	RMQ716Z	Leaf Switch	1	X	
79	RMQ707Z	Leaf Switch	1	X	
80	RMQ708Z	Screw, Leaf Switch(RMQ707Z) M'tg	1	Z	
81	RMQ652Z	Spring, Flywheel	1	Y	
82	RMQ730Z	Washer, Flywheel	1	Z	
83	RMQ732Z	Belt, DC Motor	1	X	
84	RMQ760Z	Flywheel	1	X	
85	RMQ812Z	Retainer, Flywheel	1	Z	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	
86	RMQ734Z	Fast Forward Idler Assembly	1	Z	
87	RMQ675Z	Tape Counter	1	X	
88	ECEA16V100	Electrolytic Capacitor	1	Y	
89	MHI5R2CY	DC Motor	1	X	
90	RMQ709Z	Motor Pulley	1	X	
91	RME70A	Lead Clamp	1	Z	
92	XSS3-5S	Cushion, DC Motor	2	Z	
93	XTN3+6F	Screw, Bracket M'tg	2	Z	
94	RMQ710Z	Cushion, DC Motor Belt	1	Z	
95	RMQ813Z	Bracket, PC Board	1	Z	
96	RMQ171A	Rubber, DC Motor	2	Z	
97	RMQ615Z	Spacer, DC Motor	2	Z	
98	RMQ616Z	Screw, DC Motor	2	Z	
99	RMQ646Z	Lead Assembly, DC Motor	1	Y	
100	RMQ827Z	Bracket, DIN Jack	1	Z	